

DRAFT FACT SHEET



Draft Health Advisory: Safe Eating Guidelines for Fish from the Lower Feather River (Butte, Yuba, and Sutter Counties)

a fact sheet by
Office of Environmental Health Hazard Assessment
California Environmental Protection Agency

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Why has OEHHA developed a draft health advisory for fish from the lower Feather River?

Recent studies by the State Water Resources Control Board, the CALFED Mercury Project and the Sacramento River Watershed Program have indicated that some species of fish in the lower Feather River contain elevated levels of mercury and could pose a health risk to people who eat them frequently. The Office of Environmental Health Hazard Assessment (OEHHA) has evaluated the health effects of eating fish from this river and has issued a draft report and health advisory with “safe eating guidelines” for the consumption of fish from these water bodies. For the purpose of this advisory, the lower Feather River is defined as the entirety of the river downstream from the Fish Barrier Dam to the confluence of the Sacramento River.

The draft safe eating guidelines include an “enjoy” table that identifies fish containing low levels of mercury that can be eaten two or three times a week. The guidelines also include an “eat in moderation” table, with fish whose consumption should be limited to one meal a week or less and an “avoid” table, with fish whose consumption should be restricted to one meal a month or less. One set of guidelines applies to women of childbearing age and children aged 17 and younger, who are particularly sensitive to methylmercury (the most prevalent and toxic form of mercury in fish). A second set applies to women beyond their childbearing years and men.

Because methylmercury affects neurological development, women of childbearing age and children age 17 and younger should carefully follow guidelines for eating these fish.

Does the water in the river pose a hazard?

No. As explained below, mercury tends to accumulate in fish, but not in the water itself. Physical contact with the water is safe.

Why is mercury found in fish from this region?

Mercury contamination of fish is a global problem. Emissions from coal-burning power plants and volcanoes release mercury into the air where it can be carried worldwide before being deposited in oceans, lakes, and rivers. In northern California water bodies, however, mercury is also a legacy of gold and mercury mining activities that began during the Gold Rush. Gold miners used mercury to extract gold from mined materials and discharged the waste into nearby water bodies, such as the Feather River, where the mercury accumulated in the sediment.

Once mercury accumulates in bottom sediments in lakes or other water bodies, bacteria convert it into a more toxic form, known as methylmercury, which fish take in from their diet. Methylmercury can build up in fish to concentrations many thousands of times greater than mercury levels in the surrounding water. Because methylmercury accumulates in fish slowly over time, larger fish of a species usually have higher concentrations of methylmercury than smaller fish from the same water body. Predatory fish, such as bass, generally contain more methylmercury than non-predatory fish, such as trout.

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What are the human health effects of methylmercury found in these fish?

Developing fetuses and children are especially sensitive to methylmercury. Pregnant women and nursing mothers can pass on methylmercury to their fetuses or infants through the placenta and through breast milk. Excessive exposure to methylmercury can affect the nervous system in children, leading to subtle decreases in learning ability, language skills, attention, and memory. These effects may occur following exposure through adolescence as the nervous system continues to develop during this time. For this reason, a more conservative set of guidelines applies to women of childbearing years and children up to and including age 17.

In adults, the most subtle symptoms of methylmercury toxicity are numbness and tingling sensations in the hands and feet or around the mouth. The levels of methylmercury found in fish from these lakes and rivers should not result in the health effects described above if the proposed guidelines are followed.

Can I still eat fish from this water body?

Yes. Fish are a nutritious part of your diet when eaten in moderate amounts. By following OEHHA's safe eating guidelines for eating fish from this water body, you can reduce your risk of health effects from exposure to methylmercury.

Because of the increased sensitivity to methylmercury during periods of neurological development, it is very important for women of childbearing age and children aged 17 and younger to follow the guidance provided. The Feather River has several species of fish that are very high in methylmercury and, as a result, this population group should be especially careful when choosing which fish to eat. In particular, striped bass and pikeminnow caught from the Feather River should not be eaten at all by women of childbearing age and children. Consumption of catfish or large predatory fish such as largemouth, smallmouth, or spotted bass should also be avoided by this population or, at most, restricted to no more than one meal a month. Women of childbearing age and children can eat up to two meals a week of sunfish species (e.g. bluegill or redear sunfish), or up to one meal a week of carp or Sacramento sucker, provided no other fish are eaten that week.

Choose fish that are low in mercury from the "Enjoy" guidelines to continue to enjoy the benefits of eating sport fish.

There are more options for women beyond childbearing age and men. The safe eating guidelines allow for this population group to eat up to three meals a week of sunfish or two meals a week of Sacramento sucker, carp or channel catfish from the Feather River. However, this population should limit their consumption of largemouth, smallmouth, or spotted bass, or white catfish to no more than one meal a week or eat striped bass or Sacramento pikeminnow no more than one meal a month.

Because almost all ocean and freshwater fish contain some level of methylmercury, consider your total fish consumption when making choices about how much and which types of fish to eat. For example, the federal government advises women of childbearing age and children not to eat shark, swordfish, king mackerel, or tilefish, because these ocean species tend to have high mercury levels. Women of childbearing age and children can safely eat up to two meals a week of a variety of commercial fish, but only if they do not eat sport fish from local water bodies in the same time period. If you eat fish caught from other water bodies in California, check whether OEHHA has issued safe eating guidelines for that location. If there are no consumption guidelines for a specific water body, fish caught from that location should be eaten in limited amounts.

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What are the next steps in OEHHA's evaluation?

OEHHA is seeking public comment on the draft safe eating guidelines for the lower Feather River and the draft report that described how they were developed. OEHHA staff scientists will make a presentation, answer questions and accept comments on the draft advisory at a public workshop at 3:00-5:00 p.m. on August 30, 2006, at the Feather River Tribal Health Center, 2145 5th Avenue, Oroville, CA 95965. Written comments can also be sent directly to Dr. Susan Klasing at the address below September 11th, 2006. OEHHA will review all comments before issuing a final report and safe eating guidelines.

Where can I get more information?

For information on mercury and other contaminants in sport fish in California, contact:

Office of Environmental Health Hazard Assessment
Pesticide and Environmental Toxicology Branch
P.O. Box 4010, MS 12B, Sacramento, CA 95812-4010
(916) 327-7319 or <http://www.oehha.ca.gov>

For information on mercury in commercial fish, contact:

U. S. Food and Drug Administration
Center for Food Safety and Applied Nutrition
1 (888) SAFEFOOD or <http://www.cfsan.fda.gov>

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SAFE EATING GUIDELINES

FISH CONSUMPTION FROM THE LOWER FEATHER RIVER

Fish and shellfish are nutritious and should be part of a healthy, balanced diet. It is important, however, to choose your fish wisely. OEHHA recommends that you choose fish to eat that are low in mercury such as those in the “Enjoy” category, if available for your age and gender. Because many types of fish from the lower Feather River contain higher levels of mercury, OEHHA provides the recommendations below that you can follow to reduce the risks from exposure to methylmercury in fish.



Women of childbearing age, pregnant or breastfeeding women, and children 17 years and younger

ENJOY UP TO 2 MEALS A WEEK	
Sunfish OR	
EAT IN MODERATION NO MORE THAN 1 MEAL A WEEK	
Carp or Sacramento sucker	
AVOID	
DO NOT EAT	Striped bass or Sacramento pikeminnow
NO MORE THAN 1 MEAL A MONTH	Largemouth, smallmouth or spotted bass; or catfish



Women beyond childbearing age and men

ENJOY UP TO 2 MEALS A WEEK	
Sunfish*, carp, Sacramento sucker, or channel catfish OR	
EAT IN MODERATION NO MORE THAN 1 MEAL A WEEK	
Largemouth, smallmouth, or spotted bass; or white catfish	
AVOID NO MORE THAN 1 MEAL A MONTH	
Striped bass or Sacramento pikeminnow	

*Sunfish may be eaten up to 3 times per week by this population.

- **CONTACT WITH THE WATER IS SAFE.**
- **EAT SMALLER FISH OF LEGAL SIZE.** Fish build up mercury in their bodies as they grow.
- **MEAL SIZE DEPENDS ON BODY WEIGHT.** Meals are based on a 160 lb adult eating 8 ounces of fish (6 ounces after cooking)—about the size of two decks of cards. If you weigh less than 160 lbs, eat smaller portions of fish. Serve smaller meals to children.
- **DO NOT COMBINE FISH CONSUMPTION ADVICE.** Do not eat more than one of the listed fish species during the same time period unless you are eating from the Enjoy (green) category. If you eat fish from one place following the advisory, avoid eating fish from other sources during the same time period.
- **CONSIDER THE FISH YOU BUY FROM STORES AND RESTAURANTS.** Women of childbearing age and children can safely eat up to 2 meals a week of most fish purchased in a store or restaurant, **OR** use this guide for eating fish caught from this water body. In a week when you eat 2 meals of fish purchased from stores or restaurants, avoid eating fish caught from a local water body. Commercial fish such as shrimp, king crab, scallops, farmed catfish, wild ocean salmon, oysters, tilapia, flounder, and sole generally contain some of the lowest levels of mercury. Women of childbearing age and children should not eat shark or swordfish, which contain the most mercury.
- **FISH FROM OTHER WATER BODIES MAY ALSO CONTAIN MERCURY.** Not all water bodies in California have been tested. With the exception of ocean or river-run salmon and steelhead, which generally contain low levels of contaminants, fish caught from places without safe eating guidelines should be eaten in limited amounts.